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Edited by WILLIAM HUNTING, F.R.C.V.S.

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ADVERTISING IN HIGH PLACES.

Until quite recently advertising by professional men has been tabooed, and even indirect or oblique advertisement has been looked at askance. The theory seems to be that if appeals to the public through circulars and newspapers are allowed, the man who has least veracity and most audacity will get in front of the man who depends only upon his skill and knowledge. Barristers, stockbrokers, and doctors have put their foot down firmly against the person who would appeal directly to the public for employment by self-laudatory paragraphs and repeated mention in the press.

The most successful advertisers are the most notorious quacks, and unfortunately a portion of the press cannot rise superior to the temptation of payment. The population of any country may safely be described as "mostly fools," so far as their knowledge of expert work goes, and this applies with extra force to such subjects as have brains and opinion as their only return for money spent. We do not wish to imply that the press of the country is corrupt—it is certainly ignorant of professional work. Many of the notices we see in the press are doubtless published with the best intentions. Editors imagine that the doings of certain persons or institutions must be interesting, and they do not consider that men of social or scientific eminence would forward paragraphs which are only inspired by longing for notoriety or profit. Of course there are public institutions and public men whose work and sayings are of importance, warranting the conductor of a newspaper inserting a notice of all they do or say. But when a number of institutions exist, doing equally good work and manned by equally good men, it makes one suspicious if only one of them is brought constantly before the public. And the suspicion becomes greater when many of the notices are of actions, the value of which is inestimable by the persons most interested.

There is in London a School of Tropical Medicine. There is in Liverpool a School of Tropical Medicine. For every public notice of the London School there are twenty of the Liverpool. This is certainly not due to the merits of the two places, and one can but regret that the ways of commerce are adopted at the one place and not at the other. An expedition either to the North Pole or West Africa can achieve little unless the members engaged spend some months in investigating. To pay a flying visit means nothing, and when such an event is met by half-a-dozen press notices of its departure, arrival, and return, heralded by lunches and brass bands, we begin to wonder whether the new methods are not a retrograde movement. The general public may be tickled but the experts are made suspicious.

TETANUS.

Chestnut country-bred mare, 15 h.h., 12 years.

Had been operated on by native farrier for windgalls on both hind legs some months before. The operation appeared to have been an incision on both sides of the fetlock regardless of any structures to be damaged, and the wounds had done badly, being treated with dirty oily rags after iodoform.

The mare was noticed one cold morning to be unable to move in the box, and seemed generally stiff, I saw her in the evening and found clear though slight evidence of tetanus, and on uncovering the wounds well marked symptoms, affecting legs, tail, and membrana nictitans. The wounds were filthy, the granulations very excessive and very hypersensitive.

Treatment consisted in isolation by removing the neighbouring animals and warming and darkening the box as much as possible. The granulations were touched with copper sulphates, and treated three times a day with warm solution of creolin about 20 per cent., tr. belladonna ℥x. t.i.d. in water internally. Forty-eight hours later she seemed worse and had drunk nothing but eaten a little, the wounds were much healthier.

The next day she was much better, and continued to improve for five days, when all symptoms of tetanus had disappeared. The wounds were then treated with a dry dressing of boracic acid and zinc oxide *a.a.* and hydg. sulph. ʒij. b.i.d. in drinking water for four days, after which she made an uninterrupted recovery.

THE DOCTOR SAHIB.

THE STAINING OF THE CRYPTOCOCCUS OF EPIZOOTIC LYMPHANGITIS.

In your issue of June 25th, 1904, there appears a letter on the staining of this organism from the pen of Prof. Mettam.

Having recently had a great deal of experience in the staining of this organism with many and various stains, including the one suggested by Prof. Mettam, I have come to the conclusion that for reliability and simplicity of manipulation there is no stain for this organism to beat the Gram method, and this especially for the busy man, and I am more particularly persuaded to put this on record because in that most excellent work "Bacteriological Technique," by Mr. Bowhill, F.R.C.V.S., (second edition), a work which every veterinary surgeon ought to possess, he says that the organism stains with difficulty by this method. In a sense this is

undoubtedly correct, in that the organism is very resistant to *any* stain, but it is only necessary to leave it in contact with the anilin gentian violet for say 1½ hours, and the organisms are perfectly stained.

For the busy man it is an excellent stain as there is no necessity to stand over it, and when I have smears sent to me for diagnosis I merely fix them by passing them three times through the spirit lamp and pour on the anilin gentian violet. This I do as a rule as soon as I come to the hospital, about 8 a.m., and when I have finished my hospital work I pour the anilin gentian violet back into the bottle, wash the slide, pour on the Gram's solution of iodine, and leave it for two minutes, pour this off, wash and decolorise with absolute alcohol, rinse and examine. The organisms are stained a deeper violet than the surrounding tissues, are well defined, and the double contour unmistakeable. For diagnostic purposes nothing further is required. If a picturesque effect is wanted they may be counterstained with Bismarck brown for one minute, the deep violet stained organism standing up in marked contrast to the pale brown background.

It has often been urged that the drawback to the Gram method is that the anilin gentian violet rapidly deteriorates and requires to be made up fresh on each occasion. This is hardly correct. It is true that the anilin gentian violet will not keep indefinitely, and therefore not too much should be made up at one time. I usually make up 10 c.c., and this lasts me about three weeks, staining slides every day.

I may add that my Farrier-Sergeant, after being shown once, stains smears for me now with perfect success, thus showing the simplicity of the process even amongst those unacquainted with such work.

H. A. Sullivan, Capt. A.V.D.

Army Veterinary School, Poona.

[We very much regret that this interesting note should have been mislaid and escaped publication at the proper time.—Ed.]

A URETHRAL CALCULUS.

On Jan. 28th I reported a case in a six-year-old greyhound which seemed to have made a good recovery after operation. The calculus was removed on Nov. 22nd, and up to Jan. 21st no complication arose. At that time I hoped for continued freedom from impaction of the canal, although of course liability existed for a recurrence of the evil from the same cause as gave rise to the condition upon which I operated.

On February 11th the dog, which had appeared in good health up to that date, became uneasy and made ineffectual attempts at micturition. He suddenly disappeared, and could not be found until the 13th, when the coachman discovered him asleep in a haystack. I then saw him. He was very dull and stupid. The abdomen was prominent, as though ascitic, from the enormously distended bladder. He walked in a listless manner and with a straddling gait.

On passing a metal probe the calculus was felt about the middle of the os penis. An incision permitted its removal and also of a quantity of sandy deposit from behind it. A catheter passed into the bladder gave exit to a large quantity of coffee-coloured urine, but the poor dog's condition and the probability of recurrence, even if a fatal termination did not immediately happen, suggested the propriety of euthanasia.

The patient was destroyed and a post-mortem examination showed the bladder a deep crimson colour throughout. The mucous membrane was studded with innumerable beautiful spiny crystals varying in size from a pin's head to a small pea. A good deal of sabulous material was also present. Such a condition must inevitably have lead to the formation of more urethral calculi, and sooner or later to obstruction and all the symptoms which accompany it. Retractor.

ABSTRACTS FROM FOREIGN JOURNALS.

Subcutaneous Botryomycosis of the Horse.—By M. Bidault, Vétérinaire en 2e au 5e Dragons.

The cutaneous and sub-cutaneous manifestations of botryomycosis which are mentioned in our publications almost always present similar clinical features; these consist essentially of a fibrous neoplasm traversed by fistulous tracts which give exit to a yellowish grumous pus. This is the common form of myco-fibromas of the shoulder so frequently met in draught horses. But there are lesions of the integument showing other characteristics. Thus for several years we have observed on a saddle horse a botryomycotic infection scattered on the withers and on the neck in the form of large buttons hard to the touch, but little sensitive, and giving on incision pus thick as mortar, containing an abundance of the botryomyces.

In the following observation, the inflammatory reaction has determined the production of a fibrochondroma the clinical evolution of which we have been able to follow in part, and which in our opinion may be interpreted as an efficacious termination of organic defence.

Subject and Symptoms.—Hungarian horse, aged eight years, examined in April, 1903. On the two sides of the neck in the middle cervical region, and in front of the chest at the level of the sternal projection, there existed three scutiform plates, not painful to the touch, and intimately adherent on one side to the skin and on the other to the subjacent muscles.

The plate on the right neck was the smallest, about 8 cm. × 5, it appeared to be of some thickness; inferiorly it was prolonged by tapering digitations free at their extremities.

The formation on the left was less definable and was much elongated, measuring about 30 cm., and extending almost to the crest. The deeper adherence appeared to be more complete, for its edge is not free at any part, the borders seem to disappear, so to say, in the muscular tissue. Below this plate manual exploration showed the existence of nodular thickening.

The pre-sternal plate, very thick in the centre, was an irregular triangle in shape; above it showed several tapering digitations, one of which could be moved freely under the skin. In the middle was the opening of a small fistula which gave vent to a small quantity of greyish grumous pus, in which the characteristic mulberry-shaped masses were fairly abundant.

There were no inflammatory symptoms in the neighbourhood of these tumours; the pre-scapular glands did not appear to be affected. Otherwise the general condition of the horse was excellent; he was doing fairly hard regular work in a carriage. The action of the muscles involved did not seem to be interfered with in a marked manner.

History.—We are indebted to our *confrère*, M. Richard, of Saumur, for the following notes on the origin of the lesions.

In August, 1902, the horse was perfectly sound, and had ailed nothing for at least two years. At that date he had a fall on the road and got up with several excoriations, particularly on the neck and chest. These superficial wounds healed normally, or nearly so; but towards the end of the year the owner noticed the appearance of hard plates under the skin in the regions stated. At first he gave them no attention; then as they extended he had the horse examined. Early in March a small abscess which had formed in the chest burst, leaving a fistula which became permanent.

During the summer of 1903 the development of the new formations, until then relatively rapid, slackened gradually, and towards the end of the year appeared to have ceased. The plate in the chest had slightly retracted. The fistula had closed several times, but small abscesses formed afresh successively under the cutaneous cicatrix, and broke through, the pus always containing the botryomyces.

In the middle of January, 1904, the suppuration diminished gradually and finally ceased. In April no trace of the fistula remained. Since then the tumours have shown no appreciable modification.

During the evolution of this botryomycosis the treatment with iodide of potassium, instituted by M. Richard, did not appear to him to exercise any definite action.

In April, 1903, a fragment of the plate in the chest was excised, fixed, and sections cut both by hand and mechanical microtomes, in the laboratory of Prof. Vallée. The histological examination showed the characters of a nodular fibro-chondrome; we could not detect the mulberry-shaped groups in the substance of neoplasm.

Microbiological Details. Cultures were made with the pus containing botryomyces with which we have only been able to make a very incomplete study, but we think their characters should be noted here.

Cultures in Bouillon. Growth was fairly rapid at 37 C., with uniform turbidity and sediment; odour faint, acid reaction. Turbidity more marked in bouillon from horse than from beef.

On Gelatin. Colonies whitish, not afterwards taking the yellow tint. In accord with what is generally agreed, stab cultures, slow to develop, have liquefied the medium very slowly—only after six weeks at a temperature of 15-20°, and in the manner called "tulip."

On Gélose. Culture developed freely, preserving its white colour. In agreement with Brault and Drouet, but contrary to the results obtained by Spitz, we observed no difference in colouration following the temperature of the cultures; at 30° as at 37° the colonies remained white.

On Potato and on Carrot. Growths scanty; of a brilliant white on potato, of a duller tint on the carrot, these cultures gave off plainly the characteristic fresh odour.

Some slightly special features of these cultures seem to connect the organism with the staphylococcus albus, whilst the actual characters tend to show it as a variety of staphylococcus aureus. Possibly several strains may exist differing only by the colouration of their culture, and this would show a further relationship with the staphylococcus.

From our incomplete experimental study there should be noted a subcutaneous inoculation in a horse condemned to slaughter for severe anchylosis. 5c.c. of a 2nd culture of 48 hours in beef bouillon were injected under the skin of the breast. Œdema appeared in about 12 hours, but was absorbed in two days. A month after at the autopsy minute dissection at the point of inoculation, made by M. Vivien, Vét. en 2e, showed not the slightest lesion.—*Rev. Gen. de Méd. Vét.* W.H.B.

HORSES OF DIFFERENT COUNTRIES AND SUPPLY WITH RELATION TO MILITARY SERVICES.*

By Major J. Moore, Army Veterinary Department. [Abstract.]

(Continued from page 534.)

The New World.

I will now ask you to cross the Pacific with me to the Americas, and consider the horses found there. Having lived in the United States for fifteen months, and visited Canada, Mexico, and the Argentine, I can speak with a fair amount of confidence.

To-day the Americans possess 25,000,000 horses, distributed, roughly, as follows:—

North America, including U.S.A., Canada, and Mexico	19,000,000
Central and South America	6,000,000
	25,000,000

United States of America.

By far the greatest number of the above—at least 17,000,000—are located in the United States of America, and it is of this country that for the present I wish to speak. Canada I purpose dealing with afterwards, under the heading of "Horses of the British Empire."

In point of numbers and general excellence, the United States in a matter of horses scarcely has its equal. Beginning in the early days of colonisation with importations of European stock, chiefly from England, the Netherlands, and Canadians of French origin, subsequent crossings with the English thoroughbred, and grading up with home productions, the present day American horses may be considered distinct in types, and creations of the country. Even the original Cayuse or broncho was improved in the early history of American horse-breeding by the use of thoroughbred and hunter sires, the progeny being small, but of excellent stamina.

* A paper read before the United Service Institution on December 7th, 1904.

Increase of population and prosperity of the country causes a constant large home demand, and the horse industry flourishes in consequence. A financial panic in 1893 caused for a time a depression in horse-breeding, but during the past few years the trade has steadily increased. At the present time the visible supply of desirable horses for all purposes of four and five years old is estimated at about 100,000, hardly, some say, enough to supply an average demand, but young animals are much more plentiful throughout the country, and with the increasing demand and interest that has been raised in breeding good animals which can readily be sold, the supply should be more ample in the future.

About the year 1875, through the influence of State and National Association, interest was aroused in the breeding of heavier horses, Hackneys, Clydesdales, Shires, Normans, Percherons, Belgians, and French coach breeds being imported. This infusion of new blood resulted in greater size and better bone of the horses in general use on the farm and for sale in the market.

The breeding of thoroughbreds is rapidly assuming great proportions, and we often see American horses competing on the English turf. Racing in the States is unique, inasmuch as meetings are of 30 consecutive days' duration, or even more.

The principal breeding States for high class horses of all kinds are Illinois, Iowa, Minnesota, Wisconsin, Michigan, and Indiana. These States supply Chicago and the east with their best horses, and the types produced are drafters, expressers, 'busers, farm chunks, coachers and drivers, high-class harness horses, and saddlers. Chicago is practically the centre of the industry; to it most of the animals find their way for sale. In these States and Kentucky many of the show horses and matched carriage horses are standard bred trotters.

Missouri and Kansas produce a large number of horses of an inferior type to the above, usually of the roadster and saddle classes, or for light farm work. Many are sent to the plantations of the Southern States. Better classes are very suitable for military service—cavalry and mounted infantry.

Texas bears a great name for horses, and produces them in great numbers. The best class, and the most numerous, is the cob, 14.2 to 15.0½, lighter in build than the average horse of the same height in Great Britain, but showing more breeding. He is, as a rule ugly, long, narrow, and flat-sided, but his speed, hardihood, and endurance are phenomenal.

Comparatively few horses are bred in the Eastern States, the small farms in those older States not being able to compete with the large farms and ranches and cheap land of the newer Western States.

The North-Western States of the Union, viz., Washington, Oregon, Idaho, Montana, and Wyoming, present a large breeding district, and is the home of the "range horse."

Range or ranch horses of the present day comprise:—

1. Ponies, standing up to 14.2, descendants of the ancient stock that is known by the names of Cayuse, Indian pony, or mustang; of great endurance, useful for herding cattle, and furnishing good material for polo.
2. Saddlers and drivers, 14.2 to 15.2, crosses of coach, standard bred, and thoroughbred, and representing what the range is capable of producing in the way of horses.
3. Draught grades, chunks, 15 hands and upwards.

They are all branded. The prejudice against a branded horse is not so strong as formerly. The evil disposition of the old range horse or broncho, and his individuality, is being greatly improved by the more progressive ranchmen. Close communication with men, better methods of handling, and the infusion of good blood from the Eastern States and Europe, are all producing great changes, while the wonderful quality and endurance of the native stock is retained. Bred in mountainous regions, at an altitude of from five thousand to ten thousand feet, accustomed to fend for themselves, they are a survival of the fittest. So hard is their lot in winter that it is not uncommon to find many of them with the tips of their ears frozen off. My experience of range horses is that no idea of their quality can be formed by looking at them from a distance; it is necessary to get close up to them, to get into the middle of a herd of them, to see the strength and stoutness of back and loins through their roughness. They require handling with care at first, but they are readily broken in. In estimating the potentialities of the U.S.A. for horses for military purposes, the range horses must not be lost sight of. They are an improving stock, and moreover they have cheapness for their recommendation. Quite a large number of them were bought by our Government during the Boer war. The United States is often supplied with them for cavalry, and quite often branded horses are found in export stables.

The enormous trade in horses is done through stock yards or markets in large towns. The principal are Chicago, St. Louis, Kansas City, Omaha, Buffalo, St. Joseph, Indianapolis, and New York. The rapidity of sales by auction is remarkable, and the American auctioneer, a highly-paid man, is a revelation in expertness. An auction is quite one of *the* sights of the United States. Over 600,000 horses and mules are received at the different markets annually, and 225,000 head of horses are said to be sold, 25 per cent. of which might be classed as good.

Chicago (receiving 100,603 horses and mules in 1903) is the largest horse market. It is the best for draught classes, and the centre of export trade. The stock yards stables cover 100 acres, and will accommodate 6000 horses. I attended a sale here in February last, and saw a good stamp of medium draught horse, suitable for agricultural work, parcel vanners, etc., sold, the average price being 150 dollars. It is not such a good market for saddle horse classes.

St. Louis (receiving 107,883 animals in 1903, of which 45 per cent. are mules), Kansas City (receiving in 1903, 63,437 animals) are better markets for these classes, particularly the former. By noting the receipt and shipment returns with regard to railway lines employed, it is easy to determine the States from which the animals come and the States to which they go after purchase. Transportation of stock is admirably arranged; excellent stock-cars, to hold from 20 to 25 animals, are used, and a State law necessitates the unloading of all animals in transit for water and food every 28 hours.

Omaha is a market for range horses. Buffalo and Indianapolis are really feeders for the retail markets of eastern cities. Many horses in their journey east pass through several markets.

Prices of horses have gone up nearly 20 per cent. in the last two years. Mounted infantry cobs that cost us 85 dollars during the war, would cost us now 100 dollars at least. Cavalry horses, sold then for 100 dollars, would bring now 125 dollars. Horses suitable for artillery purposes were selling at St. Louis, on my visit in February, at from 135 dollars to 147 dollars. In Chicago prices were a little higher. On the whole, I thought St. Louis a more reasonable market.

The prices paid by the American Government this year for Army purposes were:—

Special riding.—220 to 300 dollars.
Cavalry.—147, 149, and 155 dollars.
Artillery.—167 and 170 dollars.

The rise in price is due to increased home demand for good horses, and to export. The total annual export in ordinary times is well over 60,000. Canada is the prin-

cipal customer at present, and it is computed that her requirements this year will amount to at least 40,000, mostly of an agricultural stamp.

The export to Europe, chiefly to the United Kingdom, shows a falling off; 80 per cent. of the export is done through Chicago, and is chiefly of the light draught class—parcel vanners, 'busers, and carriage horses.

The British Government during the Boer war purchased 107,511 horses and 80,524 mules. The system of purchase adopted was the placing of orders with approved agents. To purchase at auctions would have been impossible. The purchase grounds lay chiefly west of the Mississippi, and the horses selected were almost entirely of the riding classes. They were very favourably reported on in South Africa, particularly the mounted infantry cob.

Though my paper relates only to horses, I am loth to close my altogether inadequate remarks on the U.S.A. without making mention of the American mule—peer of mule kind—the most handsome, hardy, useful, and satisfactory animal extant, and of greater average value than horses in his own country. From the small miner, 12.3 to 13 hands, to the magnificent heavy sugar mule, 16.2, he is bred in Missouri and contiguous States, also in Texas, and his market is for mines, lumber trade, and the cotton and sugar fields of the south. I take off my hat to the St. Louis mule that was regularly hunted with one of our best English packs some few years ago. Truly, he was worthy of the honour of a pink coat.

To-day there are about 2,750,000 mules in the United States. The British Government purchased 80,524 for South Africa during the war, and the supply was going strong at the end.

Argentine.

Of the South American Republics, the Argentine is by far the most important, containing 4,500,000 horses. In point of numbers it is very rich and resourceful, but I am sorry to say that the reputation the Argentine horses enjoyed in the South African war was not of a savoury character, and experience of them showed that they were not equal to the vicissitudes of a campaign. Soft-hearted, incapable of effort, lacking in stamina were the common reports of them. This is disappointing, because in their own country the Criollio, or small native horses, bear a good name for endurance, going long distances without being exhausted. It is an acknowledged fact that they will canter a distance of 80 to 90 miles a day carrying a man and a recado (native saddle weighing 60 to 100 lb.). This may be true of some, but the fact remains they did badly in South Africa, so badly indeed that purchase was suspended in October, 1900, after about 26,000 had been bought. This failure is moreover, unfortunate, as the country offers a good and ready field for large numbers of animals of the mounted infantry and light cavalry stamp. Various reasons have been assigned for the failure, such as "want of acclimatisation, "lack of stamina or 'bottom,'" partly inherent, but also consequent on the heart-breaking methods of breaking-in, and an entire subsistence on a grass diet. I am strongly of opinion that the last was the cause. I do not think that any entirely grass-fed animal is fit for the active service of a campaign. And of all horses I have ever met, the Argentine is by far the slowest at taking to a grain diet. He will sulk and leave it for days. I accompanied a shipment from Buenos Aires to Durban in 1898, and I well remember the difficulty we experienced in this respect. They would eat alfalfa by the ton, but would turn their noses up at our trials of oats, bran, and maize. Another feature of the Argentine horse is that he is a very homesick animal. Take him from his friends of his Tropilla, and you find him grieving at the change for a long time afterwards. Many of the Criollio horses are badly coloured animals, with blazed faces and four white legs—always, to my mind, indications of a soft and inferior bred animal.

The Argentine horse is essentially a riding horse, and for riding purposes he is chiefly used in his own country. He may be divided into two classes—viz., the Criollio, or native bred, and the Mestizo, or crossed bred. The former is by far the most numerous, and is the usual or common horse of the country. Out of the total number of 4,500,000, 4,000,000 are Criollio. Their height is from 13 hands to 14·3, Whole herds exist on different estancias. Geldings are the most valuable. Mares are not used for riding purposes. The latter are usually small and mean, menadas or herds of them running wild with an equally wild stallion, and they are only brought into corrals when the young horses are to be branded and castrated. All animals are branded with the mark of the owner, usually on the near thigh, sometimes on the neck, and often the brands are unsightly. The best and biggest are to be found in the provinces of Buenos Aires and Santa Fé, on account of better grazing grounds. They are smaller in the provinces of Cordoba, San Luis, Rioja, Tucuman, and Salta, grass being indifferent there, and many parts being mountainous. In the provinces of Entre Rios and Corrientes numbers are bred, but these provinces being low and wet, they have very flat feet, and they are not in favour in consequence.

The number purchased by the Commission from Nov., 1899, to Oct., 1900—viz., 25,932—would appear to be about the available annual supply of trained animals. They would be suitable for mounted infantry or light cavalry. If unbroken animals, or potros, were taken the supply would be much increased. The value of broken animals is from £5 to £8.

Chile.

Chilian horses have a great name for hardihood. They are similar to the Argentine, but stronger-looking, better broken, and more care is taken of them. Being bred in a hilly country, they are clever in getting up and down hills. Some of them were purchased by the Argentine Commission in 1900; they travelled well to the port of Buenos Aires, a long distance, but they were mixed up with the Argentine horses and suffered in the general condemnation. The supply would be very limited. The best are progeny of the Chilian mare with English thoroughbred hackneys and Clevelands. For driving purposes in Valparaiso and Santiago the Cleveland bay has been mostly bred and used during the last 30 years.

British Empire.

I fear that the recital of so much dry fact relating to the foregoing countries has already wearied you, but I crave your indulgence a while longer in a question that should concern us greatly, which I have purposely kept till the last, and to which I feel that wiser and more experienced heads than mine could do better justice, viz., the resources of the British Empire in horses.

Being pre-eminently, as a nation, lovers of horses, observant travellers in our dominions, and soldiers having served in our various Colonies, I assume that the majority of us here to-day are fairly well acquainted with the horses of different parts of our Empire, and that I may therefore be spared much minor detail with regard to breeds, classes, etc., and deal more fully with the more important consideration of resources and supply.

Commensurate with the other Empires and countries, we are sadly deficient in total numbers of horses. I wish particularly to emphasise this. For the whole of our Empire we have only about 8,000,000. In comparison to this I will only quote two countries, viz., Russia, with 23,000,000; the United States of America, with 17,000,000. (N.B.—The U.S.A. census of 1900 says 21,000,000).

Our 8,000,000 are distributed as follows :—

The United Kingdom ...	3,000,000.
Australia	1,625,000.
New Zealand	287,000.
India	1,343,000.
Canada	1,500,000.
South Africa, including Natal	250,000.
Jamaica	47,000.
Mauritius	12,000.
Malta	8,000.
Newfoundland ...	6,000.
Ceylon	4,000.
Falklands	3,000.
	8,085,000

United Kingdom.

The shortage does not relate in any way to our small United Kingdom, truly, the Mother Country in the matter of horses as well as in other affairs, where not only the horse population is very dense—about 23 to the square mile in England, 20 in Wales, 6 in Scotland. and 17 in Ireland—but where the best horses of all kinds in the world are produced, horses that are sought after by every nation in the world for breeding operations and improvement of stock. It is quite unnecessary for me to descant on the superiority of our English thoroughbreds, the excellence of our hunter half-bred stock, the magnificence of our heavy draught horses of Clydesdale. Shire and Suffolk Punch breeds, the merits of our hackneys, and the hardy races of ponies of Dartmoor, Exmoor, Wales, and Connemara. Volumes have been written about them all. I would, however, like to mention that we do not appear to know rightly the number of horses we have in the United Kingdom, or at least in Great Britain. The number, 3,000,000 quoted by me, is only approximate guesswork. I think it speaks rather badly of whatever Department is charged with the census of animals that more reliable data are not furnished.

In Ireland we have, roughly, 580,000 horses, and an export of 25,000 annually. We find representatives of *every* country coming to Ireland, whose horses are essentially of a riding and light draught type. A market is thus maintained, and you have supply to meet it. We hear a terrible outcry that the foreigners take the best horses out of the country, and that we ought to take steps to prevent this. I affirm this is a mistake, and I assert that they do good instead of harm by their coming; and I am of opinion that we should encourage them to come, and ask their friends to come, because they create a market, and an improving market, which will always redound to our profit and advantage. If at any future time there is urgent need, the horses will be there, and we will have first call.

Government can, however, do great good by supervising the breeding of horses, having in view the particular class of animal required. To me it seems that too much attention is paid to stallions and not enough to mares. This supervision is much more necessary and important in our Colonies than in our own older country.

Canada.

We have in Canada a great possession, and I am sanguine as to its future as a field for supply. Everything is in its favour—cheap lands, which are essential for profitable production, an increasing population creating a demand, and prosperity, which will insure a good market. Our Canadian brothers are eager for custom, and would hail with delight and satisfaction any patronage which the Mother Country could give them, even to a small modicum per annum, for the Army. To illustrate this in a simple way, I should like to mention an incident which came under my personal notice when in Canada this year. An order had been received from the Home War Office for the purchase of a few black horses for the Household Cavalry. Visiting a small agricultural town in Ontario for this purpose, I heard a man making enquiries where he could obtain the services of a black stallion, and on being asked why he required such, he answered that he had heard the British Government were going to patronise Canada for the purchase of black horses, and he had decided to commence breeding to that end right away.

At present, however, with the enormous influx of population into the country—which this year will total at least 250,000 particularly into the north-west territory, there is a great home demand for horses, more than the country can meet, and large numbers are being imported from the United States Probably 40,000 will have been imported this year, as compared to 29,000 last year, and 18,000 the year before.

This is a sign of good times. It is only to be hoped that for the future general stock of the country, care will be exercised in the selection of mares for breeding purposes. The standard of suitability of the sires can be relied on. At the same time, if the call came, Canada would always find ways and means of furnishing us with a fairly good number of horses, whether in peace time or in war.

During the Boer War, 14,611 horses were drawn out of Canada by the Remount Commission. It would be difficult to obtain the same numbers on emergency at the present time. One competent authority estimates the supply of good suitable horses for Army purposes at 2,000 per annum, the chief number being obtained from Eastern Canada. However, if the North-West and British Columbia were exploited, I am confident this number could be increased. The type of horses in Canada has considerably changed within recent years, especially those of the North-West. An agricultural type is now in greater demand, and horses suitable for the riding branches of the Army are not so readily obtainable.

The advantages of the contiguity of the United States to Canada, moreover, must not be overlooked. This enhances the value of the latter as a base for remount operations in case of a very pressing demand, particularly as regards the mule, which Canada has not got.

Furthermore, in the event of war, whether in Asia, Europe, or South Africa, the country is not inconveniently placed. Every facility for shipment east or west exists, and trans-continental transportation is easily effected.

Australia.

It is much to be regretted that the reports on the Australian horses during the war were so disappointing. We expected better results, considering the character they bore as remounts in India, and especially as they were Southern clime animals. The shipments at the commencement of the war were satisfactory, but towards the end, when the work to be done was much more severe, they were found wanting, and were the subject of much adverse criticism. Apparently the good stock of the country had been exhausted, and the supply was, in later times, drawn from inferior productions. It is feared, and it is greatly to be deplored, that the quality of horses generally has much deteriorated during the past few years. The attention of landowners is directed to the much more paying industries of sheep and cattle raising. There is no money in horse-breeding, the demand is small, and consequently there is a decay of production, especially with regard to useful horses. Racing is much in vogue, and the breeding of swift thoroughbreds for short, fast races is resulting in the production of many weedy animals, having a bad influence on the future stock of the country.

I am certain that all of us who have served in India and cultivated there a liking for our friend "the Waler,"

were grieved at the bad reports on him in South Africa. Personally, I have the greatest love for Australian horses; I was much associated with them during the six years of my service in India, and I have no hesitation in saying that the horses of the Horse Artillery there are second to none in the world—at least, this was so in the nineties, when I knew them. I may say the same of the medium cavalry and horses of the charger and hunter type to be found in the private market, the latter always being worth 1,000 to 1,200 rupees. I should like to say so much and more in defence of Australian horses. I trust that the falling off in standard and the condition of the horse industry generally is not so serious as has been reported, and if it is so, that the stimulus which the requirements of the Boer War no doubt created will be productive of good results, that closer attention will be devoted to useful-looking animals, and that all non-descripts will go to the wall. We cannot afford to allow so good a field of supply to lapse, or to suffer one so conveniently placed to India and the Eastern portions of Asia to fall into disuse. I look upon it as fortunate that the country has in India so good a customer in normal times for both private and public horses. A depreciation in its annual custom—which amounts to about 6,000 animals—would have a serious effect on Australia.

New Zealand.

The horses of New Zealand resemble English horses, and they are generally nicely broken, but the numbers available are not great.

In concluding my remarks on Australia and New Zealand, I should like to mention a fact which I consider of great importance with regard to Army supply. There are certain men who have had the experience of many years' shipping horses to India, most of whom have had to buy this experience dearly. These men should always be utilised. They know Army requirements to a nicety, and can usually submit horses for inspection in India without many rejections. New men coming into the trade invariably have horses left on their hands as unsuitable, and so lose money.

India.

A few paragraphs back I remarked that it was fortunate that Australia had in India a good customer, and that a withdrawal of this custom would have a detrimental effect on the horse-breeding interests of the former country. I particularly ask you to consider this in the light of the horse-breeding operations in India. These operations, which were commenced in 1876, on the abolition of the old Stud Department, have sought for the ultimate object the production of animals of sufficient size and substance to meet the requirements of the Army in India, not only for cavalry, but artillery, and to render that Army independent of foreign markets. Time will not admit of my entering into any description of these operations, very commendable in themselves, and it would ill become me to comment on the controversy and divergence of opinion expressed relative to the merits or otherwise of the English and Australian thoroughbred, Arab, hackney, and Norfolk trotter sires used for the grading up of the native stock. The object has not been achieved, and the artillery horse, the *raison d'être* of the Norfolk trotter, has not been forthcoming. India will produce horses readily enough, but the climate and conditions of life militate against size and substance. It lacks the green grass and grazing necessary to grow sizeable stock, and the introduction of coarse strains of horses for breeding purposes only makes matters worse. We do well enough to rest content with the excellent pasture lands of Australia for our Indian Army supply of Artillery horses. The best of the stock raised in the country under the Horse-Breeding Department is taken at a young age into the remount rearing depôts for better care and feeding till fit for issue to regiments; about a thousand per annum are thus obtained. Certain native cavalry regiments have their own studs: the 11th Lancers, for instance, have been very successful in breeding their own remounts.

The attractive prices given for polo and racing ponies has resulted in production towards this end. The general purpose animal is a pony, and the majority of the animals of the country are of this class. It is satisfactory to note that some of the old breeds, such as the Beloochi and the Kattiawar, are being revived, and we must not forget the sturdy, hardy, small Burmese ponies, to improve which by any foreign importation would be absurd. The resuscitation of these hardy breeds of small horses, and the encouragement given to their production to better type, is certainly a step in the right direction. The more useful animals we can stock the country with the better, and to this general end the horse-breeding operations cannot fail to be conducive to great good. In any war in India it will be found that the animals bred in the country, no matter of what size and substance, will stand the vicissitudes of a campaign much better than imported material. It can never be said of India that it is a country in which foreign animals quickly acclimatise. The enervating influences of climate are against this. So let us take care of our native and country-bred stock and grade it up to a better standard generally, in view of the greatest possible supply in time of necessity. Even the Gharry and Ekka ponies and the grasscutters' tats should not be overlooked. Frontier warfare would require a large amount of pack and light draught transport, and the small animals are the best to perform this, be they ponies or mules.

The Indian Army in times of peace requires nearly 3,000 remounts. These are furnished from country-bred stock and importations from Australia, Arabia, and Persia, light cavalry being mounted on country-breds and Arabs, medium cavalry on Australians, and the artillery being horsed by Australians. In times of active service, the country, with its 1½ millions, supplemented by the more easily acclimatised Arab and Persian horses, would be equal to the mounted branches of the Service. Broken horses of a mature age from Australia would supply the wastage in Horse and Field Artillery, and early purchasing could be so arranged to admit of a reasonable time for acclimatisation. A good number as a reserve is usually maintained in depôts, and this would be first drawn on. The large livery stables in Calcutta, Bombay, and Madras would also be in a position to furnish a few. The experience of one war in regard to required numbers and classes of horses is no criterion for the next, and it is very improbable that any war in and around India would result in the vast wastage of horseflesh that was experienced in South Africa during the Boer war, at least, in regard to riding classes.

South Africa.

This brings me now to the consideration of South Africa. The war left the whole country in a very denuded state. Previous to hostilities there were 387,000 horses in Cape Colony alone, 54,000 in Natal, and a very considerable number in the Free State and Transvaal, chiefly of a light cavalry, mounted infantry, and light draught type, excellent small animals that withstood the hardships of the campaign better by far than any other horses. The mortality in horses during the war, I may mention, is roughly estimated at about 340,000. To-day probably 250,000 will cover the total number in all the States, but we have left as a legacy the chance of the world in establishing a race or races of horses, an opportunity the like of which has never before been presented to any country, and which now rests in the hands of administrators to make or mar. It is a case of begin-

ning again, but the beginning is replete with great possibilities. With a foundation stock drawn from the best countries in the world, and a country pre-eminently suited in climate and soil for the raising of good, healthy, hardy animals of any type, I cannot imagine a fairer promise. It is to be hoped that future prosperity will mature this promise, bringing success to the horse-raising industry, and that in time our dominions in South Africa will show us in horses an asset of Empire, the real value of which can best be appreciated when there is a call to arms.

I trust that it will not be thought for one moment that I hold a brief for the colonies, and favour them in preference to our home markets. The major portion of the mounted branches of our standing Army being located at home, the demand in time of peace—viz., about 3,000 per annum—can readily be supplied locally—Ireland for cavalry horses chiefly, and England and Scotland for draught purposes, but for active service abroad we must go further afield.

Registration.

To meet the immediate requirements on mobilisation we have registration of 20,000 trained horses of different kinds at 10s. per horse per annum, most of which number belong to the large commercial firms in London. The e is a diversity of opinion as to whether this registration is worth the cost, and whether, by offering a good price when mobilisation is required, horses could be obtained from large firms just as easily without resorting to the enormous expenditure entailed in registration. In any case, there would appear to be necessity for modification. It is possible that registration might be made general throughout both Great Britain and Ireland, that it might be done through county and municipal authorities in conjunction with officers appointed by each Army corps or command. This registration would show classification as to sui ability for each branch of the Service as far as possible, and it need not interfere with the floating horse population of export, sales, etc. By this means also contagious diseases in horses would be kept in good control, if not eradicated altogether. Needless to say, no retaining fee for registration would be paid, but the alternative of a good price could be reliet on to induce owners to sell when mobilisation was required. The main thing is to know where the horses are.

In bringing this lecture to a close I fear I have left unsaid things that I might have said, and that I have been very indefinite on many points, but I found as time went on my notes were getting very voluminous, and that I must either abridge them or begin again on narrower lines, avoiding technicalities. I chose the former, but I trust my shortcomings will be overlooked, and that any important omissions will be supplied by discussion.

LINCOLNSHIRE VETERINARY MEDICAL ASSOCIATION.

The 23rd annual meeting was held at Grantham on the 9th ult., when Mr. T. B. Bindloss presided. The following members were present: Messrs. R. W. Clarke, Wragby; W. G. Dickinson, Boston; A. W. Mason, Leeds; Rudkin, Grantham; Gooch, Stamford; J. W. Gresswell, Peterborough; R. W. Knowles, Wisbeach; T. W. Turner, Hon. Treas. and Secretary, Sleaford, and other gentlemen.

The minutes of the last meeting were taken as read, the report having appeared in the professional papers.

Letters of inability to be present were read from several of the members.

The Hon. Treasurer presented the annual balance sheet which showed that the Society's cash in the bank had grown from £11 5s. 4d. to £16 8s. during the year, and he had between twelve and thirteen pounds subscriptions due, and these he thought he should get in very shortly. The members were of opinion that the Association was in a very good way, and the adoption of the balance sheet was carried on the motion of Mr. Rudkin.

Royal Institute of Public Health Congress.

The Secretary said he had received a letter from the Royal Institute of Public Health, asking that a delegate might be appointed by the Association to attend their Congress to be held in London in July next. It had been the usual thing to send a delegate to the Sanitary Institute Congress, and he asked the opinion of the meeting, whether they would have a change, stick to the Sanitary Institute, or send to both.

Mr. Gooch thought the Institute of Public Health was worth supporting, and whoever attended it was sure to learn something that would be useful to him. One of their own vice-presidents was a lecturer, and he thought they ought, if they could, be present to support him.

The Chairman did not think they had the means to support both, for it meant 21s. to be sent up, without allowing anything for their delegate's expenses.

Mr. Rudkin asked if there was not some one who would again attend and pay their own expenses.

Mr. Gooch thought somebody ought to go if only to show their appreciation of Prof. M'Fadyean being selected as the Harben lecturer, and they might rest assured that everything would be done for their convenience when they looked at the names of the secretaries.

Mr. Dickinson said it would be a good thing if they could get anybody to attend on their behalf. They were much better acknowledged by the medical societies than they were formerly, and he thought it would be a mistake to let this invitation slide if they could help it.

Mr. Gooch said the position of the veterinary surgeon had been much more acknowledged by the doctors during the last two or three years, and he should like their Association to assist the Institute and their own profession, for at Glasgow everything possible was done for the comfort of those attending the Veterinary Section; they were anything but badly treated.

Mr. Gresswell remarked that there had been complaints made some years ago as to the treatment of the of the veterinary surgeons attending these Congresses, but he thought most of what they had to complain about was caused by the reporters. The meetings of the Veterinary Section were held, but the reporters had gone, so that no report of the meeting was published and this had caused some amount of friction. He thought the Government ought to form a Board of Health, the same as they had done a Board of Agriculture and a Local Government Board. He had mentioned the matter to two or three Members of Parliament, and he did not think that it was creditable to England that in this twentieth century they were so far behind the colonies, and other countries in this respect. It would be a good thing if such a Board was formed where the medical and veterinary profession might work together which would be of great benefit to the country and to themselves.

The Chairman then proposed that they appoint a delegate to attend the meetings in July on their behalf, and Mr. Clarke seconded.

Mr. Gooch moved that the Association send up the fee for their delegate of 21s. and that they also allow their delegate two guineas toward his expenses.

Mr. Rudkin asked if they could not find a man who would pay his own expenses if they paid his fee of 21s.

The Chairman thought it would hardly be right to ask members to constantly be their delegates and pay their own expenses; they were not a big Society, but

two guineas would not near pay a delegate's out-of-pocket expenses, if they thought their finances would allow it.

Mr. Goocch said they had increased their balance considerbly during the year, and their Secretary had told them that he had more to come in, so they could afford the two guineas.

The Secretary said he attended in London at the Congress on tuberculosis, and a very good time he had; he had not in any way grudged the money it had cost him.

Mr. Gooch said he hoped to attend the Congress, not as a delegate but as a private individual. In 1887 they had sent three delegates to a Congress, and he considered it one of the best weeks he had ever spent in the profession.

After some further discussion it was suggested that Mr. Gooch should represent the Association and that two guineas should be allowed towards his expenses, and this was agreed to.

Election of Officers.

For the position of President of the Association for the next year, Mr. Clarke had the pleasure of proposing Mr. Rudkin, and Mr. Gresswell seconded.

Mr. Rudkin said he had been President once, and he would suggest that Mr. Lennox be selected.

The meeting expressed itself in favour of Mr. Clarke's nomination, and Mr. Rudkin in accepting the position, thanked the members and stated that he had been a member a number of years, and made a point of attending all the meetings. He regretted that they had generally so small an attendance and he did hope that as their President he should be able to whip up a larger muster. He hoped that something could be done in the matter, and he would promise them that he would do his best.

The President said Mr. Rudkin was well acquainted with a lot of the younger boys of the profession and he would be able to get a large number of them acquainted with the Society, and with him as their President he knew they would get on better.

Vice-Presidents.—Mr. Bindloss, the retiring President, Mr. Lennox, and Mr. Gooch were elected.

Secretary and Treasurer.—Mr. Clarke proposed, and the President seconded, the re-election of Mr. Turner. for they believed the offices could not be in better hands.

Mr. Gooch said at the end of the year they might find some one else to take over the other two positions for a while, for it would be impossible for one man to fill all the three offices, and he really thought they ought to confer upon Mr. Turner the highest honour they could. He was always present at their meetings and he had carried on the work as Secretary and Treasurer of their Association with great ability. Mr. Turner was then declared elected *nem con.*

The Secretary stated that he had forwarded the Association's donation to the Victoria Veterinary Benevolent Fund. It was an annual gift by the Association and it had slipped his memory, so he had neglected to bring it forward at their last meeting. It had always been forwa ded at the beginning of the year, so he had taken upon himself to send the money.—The members thanked the Secretary for seeing to the matter.

A long discussion then took place to see if any means could be devised to increase the number of the members attending the meetings of the Association. Some of the members questioned whether it was a case of the expense, but this idea was not generally entertained. Was it that the towns where the meetings were held were unsuitable and difficult to be got at, but it was stated that if the meetings were held, as they had been at ther towns, the members living close at hand did not put in an appearance. It was admitted that the worst attended meeting was always at Lincoln. Grimsby, Alford, Sleaford, and Boston had been tried, but the attendance had been no better except at Boston, when Mr. Dickinson had been their president. It was a peculiar thing that the best meetings of the Lincolnshire Association were when they were held at Peterboro' which is outside the county.

Mr. Mason said they had had the same trouble with their Association, but they had found that sending each member a post-card just before the meeting had done a lot of good.

Mr. Turner said he always sent every member of the Association a postcard on the Monday before the meeting, but he had not found that it had done them any good.

Mr. Rudkin suggested that the question be left over until their meeting at Peterborough, and that it be put on the agenda for consideration then. In the meantime they might be able to think of some remedy.

Mr. Gresswell suggested that there might be something in the expense. Some of their members had a long way to travel to the meetings so that they lost nearly the whole day's work, and then there was the cost of the dinner, and a glass of wine to those who liked a little wine. Would it be a good thing to try the experiment of having a meat tea, as was the case with some of the other Associations, and only having a dinner at their annual meetings.

Mr. Rudkin's suggestion was finally adopted that the matter come up for discussion at the next meeting at Peterborough.

Elections and Nominations.

Mr. F. T. Blakemoor, of Billinghay, and Mr. H. C. Taylor, of Brigg, were ballotted for and unanimously elected as members of the Association.

Mr. G. W. Lockwood, Mr. Gresswell's new partner at Peterborough, and Mr. A. D. Lalor, M.R.C.V.S., of Ruskington, were nominated as members of the Association.

Mr. Rudkin asked if anything had been done in the matter of the election of a member to represent them on the Council.

Mr. Turner said that last year they had nominated Mr. Gooch, but he had not been successful. They had been let down by their late representative, and since he had retired they had not been represented at all.

Mr. Gooch said he considered those outside the eight were very badly treated last year. The circular was unfair to the other members, for they had no chance of expressing their opinion, and he believed that the others were like himself, as dead against the proposition as those whose names were in the circular. This Association got none or very little support from the Midland, as they had their own candidate to support. Taking it altogether it was a sorry plight for any candidate to be in.

Mr. Mason suggested that they should nominate a candidate and ask the other Associations to support him. He knew that some had already selected candidates, but if they were asked to also support a candidate nominated by Lincolnshire, he thought they would be successful.

Mr. Gooch was asked if he would allow himself to be nominated again, and he said he would if they thought there was any chance of success, but he certainly objected to being in the position of last year.

It was then resolved that Mr. Gooch be proposed as a member of the Council, and that the other Associations be asked to support his candidature.

FIRST AID IN THE HUNTING FIELD.

By Mr. R. W. Clarke, M.R.C.V.S., of Wragby.

Mr. President and Gentlemen,—The subject for the discussion which I am introducing to-day was suggested

by our Secretary, and it is not without a certain amount of diffidence that I bring it before you, as I know I am not doing it justice, but hope by the notes I have collected, which are chiefly the result of personal observation, to establish a discussion which will bring to light cases which will be both interesting and instructive, of accidents which have occurred and of their treatment. I must begin by apologising for a mistake which I have made in not adding the word veterinary to the title of the discussion, as I am afraid we should soon get out of our depth if we attempted to discuss the treatment of accidents which happen to human beings while indulging in the sport of foxhunting.

By far the greatest number of accidents which occur in the hunting field are caused by barbed wire, and these vary in extent from a simple skin scratch to the almost complete severance of a limb, or the ghastly flesh rent requiring upwards of a score of stitches. It is surprising how many of the smaller wounds may be induced to deal by first intention if properly treated immediately after occurring. It will be necessary to get the horse to the nearest house or place where clean water can be obtained, and after thoroughly washing and irrigating the wound with, we will say for example, a 3 per cent. solution of lysol, where necessary drawing the edges of the wound together with stitches, and as soon as hæmorrhage has ceased, if the position of the wound will allow, a piece of lint soaked in the same solution should be laid over the wound and lightly but firmly bandaged on ; the bandage in the absence of heat or swelling being left on for 48 hours, when the wound will often be found to have quite healed. We each of us have our own particular fancies with regard to the agent used as a dressing, but in cases where no instruments are required chinosol in a ·2 per cent. solution makes a most satisfactory dressing, and has the advantage that it can be carried in "tablet" form and thus occupy less room in our naturally restricted medicine chest. In the more severe cases one of the first questions will be the advisability of the removal of the horse home or the detention at the nearest available shelter, and in deciding this we should bear in mind that a horse would, if he could understand, rather suffer what would appear to be cruelty for a short time in order to get to his own comfortable stable than be left for days, perhaps weeks, in a dirty, badly ventilated stable where the attention that could be given him would be anything but satisfactory, in consequence of which the wound would take longer to heal, apart from the danger of tetanus, septicæmia, and other complications the result of unclean surroundings. I do not wish it to be understood that the infliction of pain should be ignored, far from it, but in these cases no hard and fast rule can be laid down, merely the exercise of a little sound judgment.

Staked wounds are met with in all parts of the body, but more often in the foot and fetlock, and the first care in the treatment of these should be to see that no foreign body is left in the wound. A case which came under my notice particularly bears this out. A hunter suddenly went lame, and although nothing could be seen to account for lameness he went home almost on three legs. It was not until the frog had been well pared down that I detected a small hole into which a probe on being inserted came in contact with a hard substance, and on paring down a piece of wood, sharp at its upper part, was with difficulty extracted, two inches long by half-inch diameter. The wound was well syringed with a strong solution of carbolic acid, and the horse hunted again the following week. Another case which exemplifies the advantages of early treatment was one in which a horse jumping on to a fresh "stubbed" hedge ran a "stub" into the back of the fetlock along the side of the "perforans" tendon close to the sesamoid bones, the probe going in quite four inches. It was syringed out with a 2 per cent. solution of chinosol and bandaged firmly within ten minutes, and the wound was quite healed when the bandage was removed 48 hours afterwards, although the horse was lame for a month from the injury to the joint and tendon.

A singular instance of a punctured wound was one in which a horse falling at a fence ran a stake into his neck and divided the jugular vein, death ensuing before assistance arrived.

A horse twisted a shoe, which being worn sharp on the inside cut the fetlock of the opposite leg, dividing the internal plantar artery, which bled freely. I took up and ligatured the artery and dressed the wound in the manner previously described and applied a bandage, the horse was not lame, but I advised the owner to walk him quietly home ; hounds however appeared immediately afterwards, and advice *not* being followed hounds were followed, and dirt insinuating itself into the wound made a two months rest necessary.

As bearing on this case I may mention that one well-known M.F.H. always carries on the saddle a shoe jointed at the toe, which will therefore fit almost any hunter, at least well enough for a makeshift in case of casting a shoe.

Among the most serious cases met with in the hunting field are injuries to the spine, broken backs or necks. The latter are as a rule easily diagnosed if death has not already supervened, as the neck can to a certain extent be manipulated, but in cases of suspected fracture of the lumbar or dorsal vertebræ the greatest care will in some cases be necessary before arriving at a definite conclusion, as complete local anæsthesia may be caused by concussion, by plugging of the aorta, or by uræmic poisoning. The two latter conditions will upon examination be easily identified ; where, however, we are unable by manipulation or by the application of a stimulus to detect the actual fracture we can sometimes verify it by having the horse rolled over, by fixing a rope to the fore legs only, and as he comes over it will be seen if the back is broken, as this is of necessity a painful process it should only be used as a last resort.

The rupture of tendons and ligaments, and consequent "breakdown" is often met with, the extent of the injury and the severity of the lameness varying considerably. In the worst cases the sooner the horse is got into a stable and into slings the better chance he will have of ultimate recovery. One of the worst cases of this class which has come under my notice was that of a thoroughbred horse being hunted to qualify, and in jumping ruptured the annular ligaments of both hind fetlocks, and walked to the stable with the greatest difficulty, both hind fetlocks being on the ground. He was put into slings, the hind legs were packed with cotton wool and bandaged firmly, and packed in sand up to the hocks and kept in this position for a month, the bandages of course being unearthed and refixed every two or three days, he made a good recovery and afterwards won steeplechases. In less severe cases if the leg is packed with cotton wool and bandaged tightly it will often enable the horse to travel home much more easily and with less suffering ; or cocaine and morphia injected above the seat of injury will give considerable relief if it is necessary to travel far.

Bleeding at the nose is occasionally met with in the hunting field, but more often on the racecourse, and is mostly caused by galloping a horse when not fit, also after having drunk a large quantity of water ; some animals are however predisposed to it ; the bleeding varies considerably in extent, and in nine cases out of ten will be found to result from the rupture of a vein in the nasal passage, in which case it is not serious, excepting that a horse which once breaks a bloodvessel is liable to do so again and thereby cause considerable annoyance. When the rupture is in the lungs it is more serious ; we are told that if the blood is frothy it is coming from the lungs, we should not be too hasty in com-

ing to that conclusion, as if the horse is breathing hard the blood may be drawn in and out with the breath and assume a frothy character at the nostrils, even when coming from the head, but when the breathing has quietened the character will change unless the lungs are involved, when there will often be coughing; and in making our examination it will not be wise to stand in front of the horse or we may find our clothes suddenly assume a pattern. If the bleeding is from one nostril only we know of course at once that it cannot be from the lungs.

In the simpler cases if the horse is led quietly about in the wind, or if practicable sponged with cold water over the sinuses, the hæmorrhage will cease in a few minutes and we shall then be asked, "Shall I take him home." I have often seen horses after having cooled down do a good gallop without any return of the mischief. In persistent cases the hypodermic injection of a solution of "Adrenalin" a powerful vaso-constrictor is indicated.

Cases of congestion of the lungs will occur where horses are over ridden or ridden when not in condition. In the milder cases walking the horse slowly with head to the wind after being dismounted and loosened the girths will in a little time give relief without further treatment; but in cases of a more pronounced nature where distress is extreme, a stimulant should be administered as quickly as possible; half-an-ounce of Sp. ammon. co. in half-a-pint of cold water if both are available, repeated in twenty minutes if necessary, failing this three or four ounces of whiskey in a little water, or failing either of these, if relief is not obtained, the jugular vein should be opened and the blood pressure relieved by the judicious abstraction of blood. Sixty minims of Sp. ammon. aromat. may be injected subcutaneously if circumstances are in favour of this method of administration; in cases where relief is not early manifested warm clothing should be obtained and wisps vigorously applied to the skin, keeping the horse as much in the fresh air as possible.

A gentleman bought a good-looking hunter as sound, accepting the vendor's guarantee without further examination, and appeared at the "meet" the following day on his new purchase. Hounds found at once and ran very fast, and before three fields had been negotiated the horse staggered and fell with its rider, being apparently "burst" (to use a horsey expression). It recovered quickly, and when I saw it a few minutes afterwards was breathing deeply, but showed no other signs of distress. I was asked if I could account for the performance, and was at first at the loss, but the horse happened to cough and I at once recognised the asthmatical character of the cough and diagnosed it as a case of "broken wind" and advised return to the vendor.

I have seen a similar case in a bad roarer when the going was deep, but the horse recovered quickly when he had got his wind and required no further treatment.

Another condition presented in a similar manner may be caused by an attack of uræmia; this would be distinguished by the evident loss of nervous control, and by the stiffening of the muscles, and would in all probability be exhibited before any fast work had been done. Care should be taken in these cases to prevent the horse getting down, if possible, and if the attack is persistent he should be got to the nearest stable and put into slings, as a high mettled horse will often knock himself about badly in attempting to get up.

The case which I carry on the saddle for emergency measures 5½ inches by 3 by 1½, is therefore not bulky, and contains needles and suture silk, needle holder, scissors, artery forceps, probe, tape, bandage, lint, one tube Chinosol tablets, half-ounce lysol, and half-ounce ammonia.

Discussion.

Mr. Gooch complimented Mr. Clarke on his able paper, and remarked that it was the first aid that often saved a great deal of trouble, for prompt and suitable dressings were often the means of preventing troublesome and serious cases having to be dealt with, if not permanent injury to the animal. He considered the little case which Mr. Clarke had shown them was very useful and contained all that was necessary in emergency cases, and to those of the profession who hunted two or three days a week, the carrying of that little case ought to make quite a little ledger for them.

Mr. Dickinson questioned the advisability of washing out a wound with water, for there were several sorts of that commodity, and in his opinion some washings with water would do more harm than good. He thought no wound should be washed unless the water had been sterilised, and if the wound was bleeding badly get the animal home as soon as possible.

Mr. Rudkin said he was recently sent for to a horse—a four-year-old—which showed all the symptoms of staggers. It was so bad that the owner wanted to have it shot, but he tried and injected four drachms of brandy into the jugular vein, and in about fifteen minutes the animal jumped up and began to eat and drink. Another client of his had staked a horse in the middle of the chest and then walked it about nine miles home. Its temperature was then 104, and showed signs of a speedy collapse. He dressed the wound and administered whisky and in four hours the animal appeared to be a little blown, but was in a fair way towards recovery.

Mr. Gresswell said he had seen several cases of what appeared to be lockjaw, but they had usually turned out to be nervous. Cases of rupture of the nasal chamber were also of frequent occurrence in the hunting field, and the best thing was to bind the jaw and nostrils with a strap and keep the animal quiet for some time. For wounds the best thing was chinosol or lysol; he did not think they could get anything better. Many horses were injured by barbed wire, and it was seldom that the veterinary surgeon was called in until the owner had tried all sorts of useless and even injurious remedies. He had known owners dress broken knees with blacking and black lead, until they got the animal home, and very often a great deal of harm had been done before the veterinary surgeon was called in.

Other speakers thanked Mr. Clarke for his able paper and complimented him on arranging so many articles necessary for first aid in the field in so small a case.

Mr. Gooch said he should like to obtain the opinion of the members upon a matter that had come under his notice lately. A veterinary surgeon who had been inspector to the Corporation had left the town and the town clerk had written to the other veterinary surgeons asking them to tender for the position. Was this the usual way these things were done. Ought the veterinary surgeon concerned to let the the thing slip rather than lower the dignity of the profession.

Mr. Gresswell did not think it would be lowering the dignity of the profession, for it seemed as if it was the regular way of doing, however much they objected to it. There used to be the same kind of thing at Peterborough, but some of the tradesmen on the Council thought it ought to be divided, and now the veterinary surgeons take it in turns to attend the horses belonging to the corporation, and those on the sewage farm. They take it in turns of a year each from the 1st of April to the 31st of March.

Mr. Gooch asked if a corporation would ask a medical practitioner to tender for the position of Medical Officer of Health.

Mr. Clarke believed this was done at several towns

and under the circumstances he did not think the veterinary surgeon would be lowering the professional dignity.

Mr. MASON said as far as his experience went, the corporation as a rule have a man in their eye, and this man gets the request to tender with the others. If you are the man they have in their eye you will get the position whatever price you ask, but if they have somebody else in view you will not get the post, however low your tender. He did not think the dignity of the profession would be lowered by a veterinary surgeon tendering for such a position under the existing state of things in the disposal of these positions.

Mr. W. G. B. DICKINSON, of Boston, then gave a very interesting account of "Some skin diseases of cattle and their transmissibility to man." Mr. Dickinson exhibited some photographs which had been specially taken to illustrate his remarks.

Mr. Dickinson also exhibited some pathological specimens which he had come across in his own practice.

The members afterwards dined together at the Angel Hotel, Mr. Bindloss presiding.

WEST OF SCOTLAND V.M.A.

A meeting was held in the Religious Institute Rooms, Glasgow, on Wednesday, 22nd Feb., 1905, at 4.30 p.m. James Weir, Esq., F.R.C.V.S., President, in the chair. There was a large attendance including: Messrs. Blue, Bishop, Begg, Brown, Campbell, Forrest, D. Hamilton, T. Hamilton, Imrie, J. R. McCall. McFarlane, McNicol, McAllister, Robb, Robertson, Roy, Taylor, Weir, Geo. Weir, with Prof. James Murphy and Mr. George McCall as visitors.

The minutes of the last meeting having been read and confirmed the following office bearers were elected for the ensuing year:

President.—James Weir, Esq., F.R.C.V.S. (elected unanimously).

Vice-Presidents.—Messrs. Taylor, Imrie, and Robb.

Executive Committee.—Messrs. Robb, D. Hamilton, and Roy.

Joint Secretaries and Treasurers.—Messrs. H. Begg and J. R. McCall.

The following nominations for membership were received: Messrs. Anderson, Brown, Campbell, W. P. Begg, Forrest, Frewe, Harvie, Logan, McAllister, McIntyre, McFarlane, A. Robb, jun., R. D. Spittal, and Geo. Weir.

Prof. JOHN R. MCCALL read a paper on "Epizootic Lymphangitis," and exhibited a number of photographs of the disease, also showing the cryptococcus stained and unstained under the microscope.

The paper was well received, and an instructive discussion ensued, the fact of the disease having occurred in Glasgow increasing the interest of those present, and the subject of differential diagnosis between glanders and epizootic lymphangitis was gone into very fully.

A hearty vote of thanks to the Chairman and Essayist brought a highly successful meeting to a close.

HUGH BEGG and JOHN R. MCCALL,
Joint Secretaries.

DISEASES OF ANIMALS ACTS 1894 TO 1903. SUMMARY OF RETURNS.

Period.		Anthrax.		Foot-and-Mouth Disease.		Glanders (including Farcy)		Rabies. Cases Confirmed.		Sheep Scab.	Swine Fever.	
		Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Out-breaks	Ani-mals.	Dogs.	Other	Out-breaks	Out-breaks.	Slaughtered *
GT. BRITAIN. Week ended Feb. 25		16	19	..	..	18	21	..	..	33	13	46
Corresponding week in	1904 ..	18	32	..	..	32	58	..	..	75	21	61
	1903 ..	18	23	..	..	26	44	..	..	97	32	98
	1902 ..	18	25	..	..	20	31	1	..	41	22	92
Total for 8 weeks, 1905		159	270	..	..	178	328	..	..	408	87	341
Corresponding period in	1904 ..	164	226	..	..	214	447	..	..	754	210	1222
	1903 ..	131	197	..	..	176	338	..	..	795	222	1005
	1902 ..	132	224	..	..	175	352	3	..	660	267	1571

Board of Agriculture and Fisheries, Feb. 28, 1905.

IRELAND. Week ended Feb. 18		..	..	..	..	3	7	..	..	16	1	15
Corresponding Week in	1904 ..	1	1	..	..	..	..	..	..	20	4	46
	1903 ..	..	..	..	..	..	..	..	..	52	1	12
	1902 ..	..	..	..	..	..		..	..	25	2	78
Total for 7 weeks, 1905		..	..	..	..	6	12	..	..	136	4	186
Corresponding period in	1904 ..	1	1	..	..	1	1	..	..	207	16	394
	1903 ..	..	..	..	..	1	2	..	..	198	4	229
	1902 ..	..	..	..	..	3	6	..	..	215	21	383

Epizootic Lymphangitis, Week ending Jan. 14, 2 cases.

Department of Agriculture and Technical Instruction for Ireland, (Castle Street), Dublin, Feb. 23, 1905.

NOTE.—The figures for the Current Year are approximate only.

* As Diseased or Exposed to Infection.

ON THE PATHOLOGY AND TREATMENT OF LEPROSY.

By Captain E. R. Rost, I.M.S., Resident Medical Officer, General Hospital, Rangoon.

The Preparation of Leprolin.

Trying to remove the salts of chlorine from nutrient media by chemical means failed, as the medium was always rendered useless in the process. I then tried distilling beef extract, and found that it was possible to obtain a fluid smelling strongly of beef, and containing only the volatile substances in beef; in this medium the bacillus tuberculosus grew with the greatest ease, and so did the bacillus lepræ and the bacillus of Lestgarten. The nutrient medium was then improved by passing a current of superheated steam from the autoclave over boiling beef extract, and lately it had been further improved by passing superheated steam over the beef extract soaked in pumice stone in bottles inside the autoclave. In this medium one can obtain a growth of the bacillus tuberculosus in from one to three days, and the bacillus lepræ in from three to five days as well as the other acid-fast organisms. The characteristic appearance is a curly white, stringy heavy deposit at the bottom of the tubes, which is hard to shake up, but when shaken up appears as a curly white, stringy shred in the tubes.

By dialyzing nutrient agar in frequently-changed warm distilled agar, a nutrient agar was obtained entirely free from sodium chloride, and on the surface of this medium the acid-fast group of bacteria grow with the greatest ease. The bacillus of leprosy grows at first as a white, and later as a yellow or brick red, curly, thick growth on the surface of the agar, very much like the bacillus tuberculosus grows on the surface of glycerinized nutrient agar.

As already stated, the bar to the cultivation of this bacillus has been salt. The fresh granulations of the ulcers of a case of leprosy are scraped and examined for the bacilli by the method of staining for the bacilli, and if they are found a tube of the medium prepared as already stated is inoculated with a piece of tissue, and is incubated at 100° F. in the incubator, and is examined after from three to five days. There is then found a thick deposit, which on being shaken up in the tube, forms a curly white stringy fluff. This on being examined in the usual way, shows the bacilli of leprosy, with usually some contamination. This tube is then plated into a warm Petri dish of the dialyzed medium prepared as stated above, and after from three to five days the Petri dish is examined, and the colonies of the bacillus lepræ isolated in the usual way by means of stabbing with a platinum needle, and inoculating into other dishes of the medium. The Petri dishes present the same appearance as those of the bacillus tuberculosus, except that the colour of the colonies changes to yellow or to a brick red.

Pasteur flask cultivations become cloudy after from one to two weeks, and when the culture is getting near the time for it to be examined to see if it is ready for making into leprolin, it should present a milky appearance on being shaken up. Usually after six weeks the culture is ready to be made into leprolin.

I have lately been making stock cultures in the medium reduced over sulphuric acid in a vacuum to one quarter its bulk, as the nutrient value of the medium is thus increased.

The toxin of the cultivation of the bacillus leprae I call leprolin, and this is prepared on similar lines to the preparation of tuberculin. There are a great many different ways of preparing tuberculin, but Koch's original method was to grow the bacillus tuberculosus for six weeks in Pasteur flasks, and to heat the flasks to 100° C., and then filter the culture through a Pasteur filter, and reduce the fluid to one-tenth the original bulk, and add glycerine. This is practically the method I employ, except that I do not sterilize the cultures at all; I merely filter the cultures through sterile Pasteur candles several times, and then reduce the fluid to one-tenth the original bulk, and then refilter the fluid through re-sterilized Pasteur filters, the filters being previously tested.

Such a leprolin will produce a powerful reaction in a case of leprosy, which may last for three days or more.

I have now manufactured over 500 doses of this leprolin and injected it into 120 cases of leprosy, and in each case there has been the same reaction. The leprolin is now being used in thirty different places in India, and in order to meet the demands it is now being maunfactured in large quantities, but, owing to the difficulty of preparation, not more than twenty doses can be turned out a day with the present arrangements. I hope before long to increase this to double. One dose of the leprolin is equivalent to 50 c.cm, of culture.

Action and Uses of Leprolin.

A case of leprosy, after the first injection of leprolin, will get a severe reaction, which may come on very soon after the injection, the temperature running up to 104°F or higher, the anæsthetic areas becoming red, hot, and swollen, and the pulse and respiration rate going up very soon after injection. The fever may come down a little on the second day, but usually rises again to 102° or 103° and then gradually falls to normal on the third or fourth day, the redness and swelling gradually subsiding, and with this subsidence the sensation may return in some of the anæsthetic areas to a large or small extent according to the case.

There is a good deal of smarting at first at the site of injection, due to the glycerine with which the leprolin is is preserved, but this soon goes away. When I first made this material I used to inject large amounts. That was before I had procured the necessary apparatus for concentration. Now the dose is 10 c.cm., injected into the muscles of the arms or buttock.

The most remarkable effect of leprolin on lepers is the suddenness with which the sensation returns in the anæsthetic patches. I know that it is hard sometimes to say that some low-class Indians have anæsthesia or not, but the majority of my patients have been intelligent Burmans, and some Eurasians, and only the minority jungle folk. I have made absolutely certain before injection that the patient could not feel the prick of a pin in certain areas, and I am glad to say that in almost every case injected with this material there has at least been some obvious return of sensation in some anæsthetic area.

The next thing that leprolin does in alleviating the symptoms of this disease is: It relieves the shooting pains in the limbs and joints that these patients suffer so badly from, and causes the heavy sensation in the limbs to disappear. It changes slowly the white anæsthetic patches by commencing in the centre and edges of the patch to change the colour of the skin to normal. It causes the rough furfuraceous skin to smooth. After injection the anæsthetic patches will show redness in their centres, which gradually assume the natural colour of the skin, and these patches, which may have been anæsthetic before, become tender to the touch. It causes the nodules in the subcutaneous tissue to subside, and this in some cases has been a very marked feature of the improvement. It causes the ulcers to heal up, and this it does rapidly; some cases had ulceration for years, and after only one injection the ulcers healed up. Even parts that are gangrenous slough away and leave a healthy granulating sore. Such a case—a man who came to hospital with gangrenous feet and loss of sensation in the entire legs—after four injections of leprolin

was so much improved and almost healed up, with return of sensation completely in the legs, that he was able to walk about.

I have now injected this material over four hundred times, and in every case there have been no bad symptoms, and in every case the disease has ceased to advance.

The action of leprolin, then, appears to be very similar to that of tuberculin, when the latter is applied in the case of lupus. There is a marked reaction in the affected area, and cases of lupus have been reported which have greatly benefitted by the injection of tuberculin. As is well known, however, its action is dangerous, as it is liable to loosen the bacilli from the deeper tissues and cause a general infection of the disease. There appears to be no such danger with regard to the action of leprolin. —*British Medical Journal.*

ANIMAL PLAGUES OF THE PAST.

The animal plagues which have been already considered in previous articles are Sheep pox, which was introduced in 1847 by some Spanish merinos which were purchased in Smithfield Market and taken to Datchet; Cattle-plague, which may be looked upon as the most destructive of the maladies which have been sent to us from time to time from abroad; Foot-and-mouth disease, a comparatively benign disorder; and Pleuro-pneumonia, which, although fatal in a considerable proportion of cases, was so extremely slow in its progress that it did not excite anything like the alarm which attended the introduction of the two first-named disorders. Sheep-pox ceased to exist under the gradually increasing stricness of the preventive measures which were adopted in the first instance in 1850. A second outbreak in 1862 was promptly extinguished in a few months. A third outbreak in 1865 was also dealt with promptly, and did not extend beyond the flock in which it was first detected. A fourth outbreak, in Northamptonshire in 1866, was checked by the owner, who as soon as he became aware of the nature of the disease, immediately slaughtered and buried the whole of the flock of Dutch sheep in which it appeared. A fifth outbreak occurred in Essex in March, 1866, and in some way from this centre the disease was carried into Cheshire; it was, however, in this case remarkably mild, and the strict isolation of the flocks sufficed to prevent the spreading of the disease, which gradually died out without causing any serious loss, as the majority of the animals attacked recovered.

Since the last outbreak in 1866 no further cases have occurred in this country, although sheep from various parts have been found affected with sheep-pox at the place of landing. The spreading of the disease from the landing places was in each case stopped by the slaughter of all the sheep which had been in contact with the one in which the disease had been recognised.

Foot-and-mouth disease, which first appeared at Stratford, in the neighbourhood of London, in 1839, was not for some time looked upon as a foreign cattle plague, although it spread rapidly all over the country from the Smithfield market—so quickly, indeed, that it appeared almost at the same time in various parts of England, Ireland, and Scotland. Very little excitement followed the rapid spreading of this new malady; the prominent symptom was the appearance of blisters on the animal's tongue and lips, and occasionally on the udder; but in some parts of the country where it was rife no treatment was adopted by the owners of the sick animals, and it was only occasionally that they would ask a veterinary surgeon as to the best method of dealing with the affection, and he would probably recommend a little bicarbonate of potash in the food, or some equally simple measure. It is a remarkable fact in the history of the malady that, after three years' prevalence, it suddenly declined, and no further records of its existence are to be found until 1845, when it again began to rage, particularly in Norfolk. It is clear from the history which has come down to us that this reappearance of the malady attracted a good deal more attention than did its advent, as among the measures which were taken in 1845 was the prohibition of St. Faith's fair on account of the prevalence of foot-and-mouth disease. In 1847 and 1848 the affection again began to decline, but in 1849 Scotland had a severe visitation of the disease, which extended over the country, and did not decline until 1852. From this time till 1861 there happened again the peculiar subsidence of the disease which had previously been noticed; in fact, the disorder was almost forgotten until 1861, when it again began to spread with rapidity. In 1862 the show of the Royal Agricultural Society were held at Battersea. Cases of foot-and-mouth disease were noticed during the show, but at that time no steps were taken to deal with the disorder, and as a natural consequence the affection was carried by the exhibited animals to different parts of the country to which they were taken. No very serious outbreak appears to have followed, however, and during 1863 another period of the decline of the malady was observed; but in 1865 it again became prevalent, and, in fact, was raging at the same time that cattle plague was spreading over the country, and on one occasion at the Metropolitan market some hundreds of cattle were found to be affected with the disorder, and in the same market several cases of cattle plague were detected. The prevalence of the last-named fatal disorder very naturally detracted attention from the spreading of foot-and-mouth disease. In 1867 the malady again declined, it was thought in consequence of the restrictions on the movements of cattle which were applied in an endeavour to check cattle plague; but by this time the regular decline and recurrence of the disorder had come to be recognised as its periodicity characteristic. Meanwhile, up to 1864, no attempt had been made to check the spreading of foot-and-mouth disease by legislative action, and the attempt which was then made was a complete failure. It had been recognised for some few years that considerable damage was done by the prevalence of the disease, especially in dairy stock, among which the disease spread rapidly, as its period of incubation was only a few days, and consequently the whole of the cows in a large dairy herd were attacked in quick succession, and during the time that the disease existed —from ten days to a fortnight or more, there was a considerable loss, and sometimes a total suppression, of milk, to the great inconvenience of the trade. It might have been thought that, in view of these known facts, any attempt on the part of the legislature to check the spreading of the disease would be welcomed by stock-owners. The contrary, however, was the case. A Bill was introduced by Sir George Gray and Mr. Bruce for the purpose of checking the spreading of foot-and-mouth disease and other diseases of lower animals, and met with such decided opposition from some of the leading agriculturists of the time, and also from cattle dealers, that foot-and-mouth disease was struck out of the schedule. In the Bill which was introduced in August, 1869, dealing with contagious diseases of cattle and other farm animals, foot-and-mouth disease was included in the definition of contagious and infectious disease, and certain Orders of Council were passed with a view of controlling the extension of the disorder; but very little effect appeared to be produced, owing, most probably, to the fact that the regulations were in most cases permissive, and were consequently adopted in a very irregular manner in different districts, and before a select committee of the House of Commons evidence was produced which induced the members to recommend the revocation of all Orders of Council having reference to

foot-and-mouth disease. The recommendation was at once adopted, and evidently had the effect of causing a reaction, as very shortly afterwards deputations of agriculturists waited on the Privy Council and urged their Lordships to re-impose the Orders, which was accordingly done.

The great difficulty which has always been experienced in imposing rules for the movement of animals was the consequent interference with the cattle trade, which was resented by the dealers, who ridiculed the idea of keeping animals shut up because they had a few blisters on their tongues. The opposition to the adoption of any such measures was very strong, and there was no doubt that the regulations were constantly evaded. It was quite evident that the rigid adherence to the adoption of the restrictive measures would occasion considerable disturbance to the system of cattle traffic; it was, nevertheless, recognised that there was no alternative which could be relied upon, and it was only by insistence on the policy of strict isolation that the affection was ultimately got rid of in 1866. In several instances since it was considered to be extinguished outbreaks have occurred in different parts of the country, presumably from the introduction of infection by indirect means, and in these cases the stamping-out system in its entirety has in nearly every instance been employed, with the gratifying result that the malady has not spread to any serious extent.

In previous articles some of the particulars relating to Pleuro-pneumonia were described, such as the introduction of the disease in 1840 into Ireland, its rapid progress over the whole of the kingdom, and the comparative indifference with which it was regarded by stockowners, who looked upon it as an ordinary inflammation of the lungs of a fatal form, but in no case contagious or infectious, chiefly distinguished from the common form of the disease by the peculiar veined or mottled condition which was in every case detected in the part of the lung which was affected, sometimes the whole of the lung on one side, causing an enormous increase in the size of the organ and also of its weight. In one particular instance, where the whole of the left lung was implicated, an opportunity was by chance afforded of ascertaining the weight, the apparatus for the purpose being at hand. The right lung, which was perfectly free from disease, was found to weigh 15lb; the diseased organ weighed 45lb. The fact that pleuro-pneumonia might exist to a considerable extent in a portion of one lung without affecting the animal's health was not discovered until several years had elapsed after the introduction of the disorder, and the discovery at once afforded an explanation of the distribution of the of the malady from apparently healthy animals which had been recently purchased. To veterinary surgeons who were in the habit of attending slaughter houses for the gene al purpose of inspecting the organs of the animals which were slaughtered, there was nothing novel in the fact that the disease was commonly present in one or both lungs in animals which were in good butchers' condition. To the slaughtermen there was nothing new in the observation, and when their attention was called to it by a looker-on, the common remark was, "Oh, it is only a touch of the lunger." It has already been recorded that the first attempt, in 1865, to legislate for the control of pleuro-pneumonia as a contagious disease entirely failed. In the Contagious Diseases of Animals Act which was passed in 1869, pleuro-pneumonia was placed in the list of contagious diseases, and an order, which came into force in September, 1873, provided for the slaughter of all animals which were certified to be affected. Local authorities ordering slaughter were compelled to provide compensation, and it is probable that on this account the order was administered in a very perfunctory manner, and certainly made no impression upon the disease. On the contrary, in 1874, notwithstanding the order for compulsory slaughter, there were 3262 fresh outbreaks, as against 2711 in the previous year; 7740 animals were attacked, as against 6787 in the previous year. No very important change occurred in the rate of prevalence of pleuro-pneumonia during the next three years, and in 1877 another outbreak of cattle plague, which at one time threatened to extend over the country, attracted special attention, and it was remarked that very little was heard among stockowners about pleuro-pneumonia and foot-and-mouth disease. The official reports for the year 1877 state that pleuro-pneumonia maintained its ordinary rate of prevalence. The cattle plague of 1877 and the necessary restrictive measures had the effect of checking the spread of pleuro-pneumonia, a result which was, of course, only temporary. In 1878 the lung disease was less prevalent, and for some years it continued to vary in respect of the extent of its distribution over the country. For example, there was a considerable decrease in 1880, 1881, 1882, and 1883. In 1884 there were fewer outbreaks, but a larger number of animals were attacked. In 1885 the number of outbreaks was considerably in excess of those of the previous year, the increase being to a great extent in Scotland, and this continued during 1886 and 1887. Early in 1888 the slaughter of cattle in contact was ordered, and this was presumed to include the main provisions of the stamping-out system.

In the following year, 1889, notwithstanding the slaughter of diseased and in-contact animals, it did not appear that sufficient impression had been made to justify any hope that the affection would soon be eradicated, and in the following year, 1890, an Act was passed, which came into operation on Sept. 1, and established an entire change with reference to the procedure to be henceforth adopted for the purpose of eradicating the fatal lung complaint, which had existed with greater or less intensity since 1840. The Veterinary Department was now charged with the duty of administering the Act directly, instead of supervising its administration by local authorities. The system, which was immediately carried into effect, may be described in a few words. Immediately on the discovery of the disease the inspector was required to transmit the information to the local authority and also to the Board of Agriculture. The slaughter of the suspected animal was the next step, and the veterinary inspector was directed to send the lungs of the slaughtered animal to the Royal Veterinary College for inspection. A travelling inspector was deputed at once to visit the scene of the outbreak and arrange for the slaughter of the herd in which the disease had broken out, and then to inquire into the origin of the outbreak and the distribution of any cattle which had been removed from the premises before the outbreak was discovered. The system of tracing suspected cattle was the essential feature of the new procedure, and one direct consequence of the inquiry was the slaughter of a very large number of animals which were not up to that time suspected subjects. To make the plan quite clear, it may be supposed that an outbreak was detected on premises belonging to A, and the immediate consequence would be the slaughter of all animals on those premises, diseased and apparently healthy, the carcases being disposed of according to the direction of the inspector, either for human food, if they were found to be in perfectly fit condition, or for destruction by burial or otherwise, according to circumstances. The matter, however, by no means ended here. A, the owner of the diseased and suspected animals, was required to inform the inspector from what source he had obtained any of the cattle, which had been brought upon his premises, and also how he had disposed of any animals during a certain time before the outbreak took place. It is obvious that an investigation of this sort involved visits to markets, as well as to private premises, and the

outcome frequently was the inclusion of premises belonging to B, C, D, etc., in the suspected list. No hesitation was felt in ordering the slaughter of all the cattle on these incriminated premises, often when not the slightest indication of sickness was observed among any of the herds. The justification was, however, the discovery of cases of the disease among the herds in nearly every instance, and further than that, in the rapid decrease of the disease under the new method of extinction.

When the work of stamping out the disease began, in September, 1890, forty-six outbreaks occurred during the month. In the last month of the year the number was reduced to eighteen. This gratifying result was disturbed in the following year by outbreaks of the disease in Southampton and in Cumberland. In both these cases the movement of infected cattle led to the extensive spreading of the disease, and in July and August, 1891, the number of outbreaks rose to thirty-five in the first month and twenty in the next. This, however, only led to the more rigid adoption of the stamping-out system, with the necessary loss of a large number of valuable cattle. In September the outbreaks were reduced to eleven, and in December there were only seven. During 1892 the total outbreaks were only thirty-five, but those thirty-five outbreaks under the method adopted led to the slaughter of 3313 apparently healthy cattle which had been exposed to infection. Of these eighty-seven were found on post-mortem examination to be the subjects of pleuro-pneumonia. During the year 1893 the total outbreaks of pleuro-pneumonia amounted to nine. These nine outbreaks led to the slaughter of 1180 apparently healthy cattle. On post-mortem examination pleuro-pneumonia was detected in twenty-three of these. This was for all practical purposes the end of the disease. Occasional cases were, however, detected, particularly in the metropolis, and on inquiring into the circumstances it was ascertained that the first cases had been discovered in a slaughterhouse in a cow which had been sent from one of the dairies. This circumstance led to the suspicion that some of the dairymen in the remoter parts of the metropolis, instead of giving notice of any illness among their cows, adopted the practice of sending them at once to a butcher. To meet this source of danger a sufficient number of inspectors were appointed to visit the dairies where this procedure was likely to be carried on, and also the slaughterhouses in the neighbourhood to which doubtful animals would be taken. This measure was perfectly successful. Occasional cases of the disease, generally in a chronic form, were detected either in a cowshed or slaughterhouse, most commonly in the latter, and the usual course was adopted, namely, the slaughter of all the animals that had been exposed to infection. Some years have now passed since the last case of pleuro-pneumonia was discovered, and it is therefore not unreasonable to conclude that the malady has been effectually extinguished.—*The Field.*

FROST v. AYLESBURY DAIRY COMPANY, LTD.

In the Court of Appeal, before the Master of the Rolls, Lord Justice Mathew, and Lord Justice Cozens-Hardy.

This was an application by the defendants for judgment or a new trial in an action tried before Mr. Justice Grantham and a special jury; reported in *The Times* of November 1, 2, and 3. The action was brought by the plaintiff, who formerly resided at West Ealing, to recover damages owing to the illness and death of his wife from typhoid fever, caused, as he alleged, by the milk which was supplied to him by the defendants being contaminated with the germs of typhoid fever. The jury found a verdict for the plaintiff for £106, the expenses to which the plaintiff had been put in consequence of the illness and death of his wife; and judgment was entered for him accordingly.

The Master of the Rolls said that this was an appeal from the verdict of a special jury under the direction of Mr. Justice Grantham. The action was brought by the plaintiff to recover the expenses to which he was put by the illness and death of his wife, who contracted typhoid fever from, as he alleged, the milk supplied by the defendants. The jury found that the cause of the typhoid fever was the milk supplied by the defendants, and that the defendants were liable for the damages claimed. The defendants appealed, and contended that the learned Judge misdirected the jury, and that the verdict was against the weight of the evidence. The first point taken, was that, admitting that the milk was the cause of the typhoid fever, upon the facts of the case there was no actionable wrong on the part of the defendants. The question was whether, in the particular circumstances, the case has been brought within section 14, subsection 1, of the Sale of Goods Act, 1893. That section provided that, "subject to the provisions of this Act and of any statute in that behalf, there is no implied warranty or condition as to the quality or fitness for any particular purpose of goods supplied under a contract of sale, except as follows—(1) where the buyer, expressly or by implication, makes known to the seller the particular purpose for which the goods are required, so as to show that the buyer relies on the seller's skill and judgment, and the goods are of a description which it is in the course of the seller's business to supply (whether he be the manufacturer or not), there is an implied condition that the goods shall be reasonably fit for such purpose, provided that in the case of a contract for the sale of a specified article under its patent or trade name, there is no implied condition as to its fitness for any particular purpose."

It was said that, though it was true that the milk was bought by the plaintiff from the defendants, it was not bought in such circumstances as to show that the plaintiff relied upon the skill or judgment of the defendants. It could not be disputed that the goods were of a description which it was the course of the seller's business to supply. But it was said that the buyer had not made known to the seller the particular purpose for which the goods were required so as to show that he relied on the seller's skill or judgment.

They had not evidence in any precise detail of the inception of the relationship between the plaintiff and the defendants. They began with the fact that the plaintiff was dealing with the defendants. The result was that milk was purchased by the plaintiff from the defendants. That involved a contract for the supply of an article of food—namely, milk. The purpose for which the milk was supplied was obviously as an article of food. It did not require any evidence to prove the particular purpose for which the milk was supplied. The jury must be taken to have found that. Where was the condition so as to show that the buyer relied on the seller's skill or judgment fulfilled? If any seller ever did inform the mind of a buyer of his special care as a seller, as an inducement to the would-be buyer to deal with him, those defendants did. The book which had been called the pass book, which was supplied to the plaintiff, was full of particulars of their skill and knowledge in the matter. It contained paragraphs headed "Milk in relation to tuberculosis and other diseases"—stating the precautions taken to insure that only pure milk free from all germs of disease and free from adulteration was supplied. One paragraph related to "medical inspection," another to "milk analysis," another to "veterinary surgeon." The buyer could not escape being permeated with the sense that he was secured against the possibility of danger if he bought the defendants' milk. Milk, therefore, for the supply of the plaintiff

and his family was tendered by a seller with all this knowledge and skill.

It was then said that the buyer could not rely upon the sellers' skill or judgment in a case where no skill or judgment could have found out the defect. That was a contention that a person could not become liable for an undiscoverable latent defect. The law upon the point was the same now as it was at common law before the Sale of Goods Act, 1893. That point had been dealt with and decided by the Court of Appeal in "Randall *v.* Newson" (2 Q.B.D., 102), where it was held that on the sale of an article for a specific purpose there was a warranty by the vendor that it was reasonably fit for the purpose and that there was no exception as to latent undiscoverable defects. The difficulty did not arise here of an article which was capable of being used for an indefinite number of purposes. When one was dealing with an article which was limited in its nature to one particular purpose all difficulty vanished. The commodity, being an article of food, carried with it the particular purpose for which it was required. In "Priest *v.* Last" the hot-water bottle—from its description as such carried with it the particular purpose for which it was required. There was therefore no legal difficulty about upholding the verdict in the present case.

He now came to the question whether there was evidence to justify the jury in coming to the conclusion which they did. In his opinion there was, and the verdict could not be disturbed upon that ground. Then with regard to the alleged misdirection, it was a well-established rule that, even if there was misdirection, still if that misdirection did not affect the result of the trial, the Court would not be justified in sending the case down for a new trial. Mr. Macmorran complained, and he (the Master of the Rolls) must admit with some justice, that the learned Judge made some observations about the name of the defendant company, though that had nothing to do with the case; and he thought that it was unfortunate that the learned Judge had made those observations. In his (the Master of the Rolls') opinion there was not the shadow of a foundation for any aspersion on the defendants in connection with their bearing the name of the Aylesbury Dairy Company. But those observations of the learned Judge had no effect upon the case. He did not think that depreciating the use by the defendants of the name had any effect on the case. It was then said that the learned Judge gave no specific direction to the jury with reference to the words of section 14, subsection 1, of the Sale of Goods Act, 1893. The summing up might certainly have been more specific upon this point. But unless the Court were of opinion that the omission had some effect upon the verdict, they could not interfere. The circumstances of the case showed plainly the purpose for which the milk was sold. The circumstances spoke for themselves, and it would be a waste of time to ask a jury a specific question upon that particular point. With great respect and deference to the learned Judge, he thought that his direction to the jury was capable of improvement, but it did not affect the result of the trial. The application must therefore be dismissed.

Lord Justice Mathew delivered judgment to the same effect, in the course of which he said that there was no reason whatever for any reflection upon the defendant company. They had imposed stringent conditions upon the farmer from whom they obtained the milk, but it was obviously impossible, when their milk was drawn from different parts of the country, to see that each farmer complied in every respect with their conditions and requirements. He (the Lord Justice) regretted that the use of the word "Aylesbury" in the name of the defendant company was reflected upon by the learned Judge. He desired to say he did not concur in those reflections, and in his opinion the defendant company came well out of the inquiry.

Lord Justice Cozens-Hardy agreed.—*The Times.*

Quacks in America.

The Medical News of New York, in a recent number, published a chapter from a forthcoming work entitled *As a Chinaman Saw Us*, in which the Celestial deals with American quacks. We are inclined to suspect that the Chinaman has a merely literary existence like the Chinese philosopher, Lien Chi Altangi, who is Goldsmith's mouthpiece in *The Citizen of the World*, where also a good deal is said about quacks. But that does not make him less amusing or instructive.

He begins by admitting that the Americans have made rapid advances in medicine and surgery, and that they have some extraordinary physicians. Whether the epithet is to be taken as altogether complimentary appears doubtful in the light of a remark which almost immediately follows, to the effect that "in no other field does ignorance, superstition, credulity, and lack of real education display itself as among the American doctors and healers. The Chinaman thinks he could fill a volume by the mere enumeration of "the diabolical and absurd nostrums offered by knaves to heal men who profess to hold in ridicule the Chinese doctors." In proof of this he mentions the significant fact that "Christian Science doctors have a following of tens of thousands." In illustration of their methods he tells a story of an Eddyite healer who had been treating a sick woman in a distant town. The woman died, and when the bill was presented to the husband he pointed out that the healer had charged for treatment two weeks after the patient died. The healer was, however, equal to the occasion, for she at once replied, "I thought I noticed a vacancy."

The manifold forms of quackery pass before the Chinaman's mental vision like Banquo's issue before Macbeth. After the Christian Scientists "come the musical curists who listen to thrills of sound, a big organ being the doctor. Then there is the psychometric doctor who cures by spirits. The spirit doctor cures in the same way. The palmist professes to point out how to avoid the ills of life. Magnetic healers have hundreds of victims in every city. The advertisements in the journals of all sorts are of countless kinds. Some cure at short hand, some miles distant from the patient. They are equalled in number of the hypnotists or hypnotic doctors, who profess to throw their patients into a trance and cure them by suggestion." Some cure people by making them lie in an open grave, and persuading them that this is a "return to nature"; others bury their patients in hot mud or hot sand. Plain water has thousands of devotees with hospitals and infirmaries where the Pindaric saying that "water is the best" is exemplified in every possible way. It is estimated that there are over fifty thousand masseurs and osteopaths in the States who cure by baths and rubbing. There are vegetarians who eat no meat, and meat eaters who eat no vegetables. There are colour doctors who treat their patients by exposure to blue and other tints. Of electric cures the name is legion. But more amasing to the Celestial mind than the quacks are the patent medicine men, who advertise remedies not only in newspapers but on every wall, stone, or cliff in America; in one case which he investigated a sum of £200,000 a year was spent on advertising one remedy. There are itinerant doctors who go about professing to cure "while you wait"; in nine cases out of ten the nostrum is an alcoholic drink disguised.

"In no land under the sun," says the Chinaman, with a command of racy American which might be envied by many to the manner born, "are there so many ignorant, blatant fakers preying on the people, and in no land do you find so credulous a throng as in America, yet claiming to represent the cream of the intelligence of the world; they are so easily led that the most impossible person, if he be a good talker, can go abroad and by the

use of money and audacity secure a following to drink his salt water, paying a dollar a bottle for it and singing his praises. Such a doctor can secure the names and pictures of judges, Governors of States, Senators, Congressmen, prominent men and women, officers of the Volunteer army, artists, actors, singers—in fact prominent people of all kinds will provide their pictures and give testimonials which are blazonly (*sic*) published.

The Chinaman admits that America has a body of physicians and surgeons who are a credit to the world, but he says they are as a dragon's tooth in the multitude to the "quacks" who prey upon the people, and in so doing are in many cases protected by the law.—*British Medical Journal.*

Action for Slander—Costs.

At Gloucester Assizes last week the Lord Chief Justice gave his deferred decision in regard to costs in the case in which Charles Frederick Parsons, veterinary surgeon, Cheltenham, sued Captain Clement Cam Hunt, job master and horse contractor, also of Cheltenham, for slander, and in which the jury on the previous day awarded the plaintiff a farthing damages. In announcing that he has decided to accede to Mr. Cranstoun's application for costs to be awarded the plaintiff, his Lordship said he was quite aware that under ordinary circumstances judges always took into consideration the fact when the jury had awarded small damages, such as a farthing; bnt there were cases and cases. In this case it was quite true that the only communication complained of was made to the plaintiff's partner and his manager, and he had no doubt that fact influenced the jury in point of view of the amount of damages. But, on the other hand, the jury had found that it was a slander, perfectly rightly and in his (the Judge's) judgment it was a very gratuitous slander. There was no foundation for the suggestion that Mr. Parsons had done anything which was either discreditable, ungentlemanly, dishonourable, or, still less, dishonest.

ARMY VETERINARY DEPARTMENT.

Extract from *London Gazette*,

War Office, Pall Mall, Feb. 24.

Army Veterinary School.

Maj. E. Taylor, A.V.D., to be Professor, vice Maj. E. R. C. Butler, A.V.D., who has vacated that appointment.

OBITUARY.

W. M. Pye, M.R.C.V.S.

Graduated, Edin: June, 1891.

On Wednesday afternoon, Feb. 1, the body of Mr. W. M. Pye, M.R.C.V.S., Pretoria, was found near the old racecourse to the west of Pretoria. The body was lying on its back, with the hands clasped under the head, beneath which a silk handkerchief had been placed. The hat was tilted over the eyes, as if Mr. Pye had lain down with the intention of sleeping. An inquest is to be held.—*The Transvaal Leader.*

CORRESPONDENCE.

SAD CASE.

Dear Sir,

I have read with surprise and regret the letter in your last issue referring to Mr. A. G. Leaney. I fear the letter conveys a suggestion that Mr. Leaney is in actual want, or that he cannot rely on me to help him, or to appeal on his behalf if necessary to our brethren throughout the British Islands. Any such suggestion is erroneous and misleading.

Mr. Leaney came to Roscommon from Scotland last October to take charge of my practice during my absence at the post-graduate course at Camden Town. While travelling by rail on Nov. 1st he was afflicted with left-sided paralysis. I was then in London, but I understand that Mr. Leaney was, as soon as possible, removed to my house, and remained there for a week or ten days. But his complete powerlessness, the absence of skilled assistance, and the fact that the doctor lived five miles away rendered it imperative that he should be removed to hospital. He was therefore removed to the County Hospital in Roscommon, and has since remained there. In the hospital, through the kindness of the resident surgeon, he has had a separate ward assigned to himself and Mrs. Leaney, who has been permitted to remain with him there ever since, and the great skill and kindness and consideration, for which Dr. Blakeney is famous throughout Connaught, have been, and are, constantly at his service.

I have been almost constantly absent from home since the last week of December, and I have not been in Roscommon at all for the past fortnight. But I hear frequently from Dr. Blakeney as to Mr. Leaney's condition. I know he wants for nothing suitable to his present helpless state. He incurs no personal expense.

Your readers will be aware that, according to the usual agreements made in such cases, I am under an undeniable legal obligation to defray Mr. Leaney's travelling expenses when he wishes to return to Scotland or to England. There is therefore no necessity for any appeal for assistance to have him removed, even if I should prove cruelly indifferent to the pitiable fate of a brother practittoner struck helpless at my door and in my employment.

I do not know how anything more can be done for poor Mr. Leaney at present. He is certainly not fit to travel, and there is, I regret to say, but small hope that he will ever regain his health and power of work. If he should not do so, an appeal may well be made to the kindness and generosity of veterinary surgeons. But I do not see any reason why that appeal should be made without my knowledge, or by anyone outside the veterinary profession.—I am, your obedient servant, W. A. Byrne.

March 1st.

Sir,

In response to appeal made by me I beg to acknowledge the receipt of following sums kindly sent me.—Yours truly,

Keogh Kempston (Rector.)

The Rectory, Roscommon, March 2.

	£	s.	d.
"Veritas," Reeth		10	0
A. MacCarmick, Leeds		2	6
W. C. Patrick, F.R.C.V.S.		10	0
MacCullum, Edinburgh		10	7
"Assistant," Durham		5	0
E. Alfred West, London	1	1	0
Frank J. Thornton, Weymouth		10	6
Alfred Over, Rugby	1	1	0
W. J. Fletcher, Wrexham	1	1	0
"Near Preston"		5	0
R. R. Cole		10	0
John Ward, Southminster	1	0	0
"Oxford Street"		2	6

FORMALDEHYDE AND PURPURA.

Sir,

I read the letter of "Assistant" with reference to Formaldehyde and Purpura Hæmorrhagica in your last issue, but I regret very much that I cannot reply to one who writes under an assumed name.—Yours truly.

7 Ordnance Road, N.W. Harry Lomas.

Communications and Papers received.—Messrs. T. C. Toope, H. Lomas, W. A. Byrne, P. McKinlay, W. Awde, H. J. Dawes, Keogh Kempston, T. W. Turner. Capt. B. Runciman, S.A.C. Stratford-on-Avon, a/c V.V.B. Soc. *Journal Sanitary Institute, Cheltenham Chronicle, The Transvaal Leader.*